than the other two strategies. Compared to clonidine/guanfacine, AAPs provided a lower QALY (0.11 QALY lost) at an additional cost of $2,186 on average. Compared to atomoxetine, AAPs resulted in 0.10 QALY lost at an additional cost of $2,186. These results were robust in sensitivity analyses. **CONCLUSIONS:** In this decision analysis model, AAPs provide lower expected health outcomes than other ADHD medications (atomoxetine, clonidine, or guanfacine) in children and adolescents who failed prior stimulant therapy. Furthermore, AAPs were not a cost-effective option.

**PMH48**

**ESTIMATING UK COST-EFFECTIVENESS THRESHOLDS ASSOCIATED WITH PRESCRIBING HIGHER DOSES OF BUPRENORPHINE AND BUPRENORPHINE-NALOXONE TO INCREASE RETENTION IN OPIOID DEPENDENCE TREATMENT**

Russell C, McKeganey N

*Centre for Drug Misuse Research, Glasgow, UK*

**OBJECTIVES:** Staying in structured drug treatment for more than 12 weeks is a strong predictor of positive outcomes. Higher doses of buprenorphine and buprenorphine-naloxone appear to be more effective for retaining clients in treatment, though the incremental cost per retained client associated with each dose is unknown. This study estimated cost-effectiveness thresholds for prescribing higher doses of buprenorphine/buprenorphine-naloxone to retain individuals in treatment for at least 12 weeks. **METHODS:** Dose, treatment duration, and retention data were extracted or computed from 14 randomised, controlled, double-blind clinical, 12-26 week trials of buprenorphine/buprenorphine-naloxone maintenance treatment of opioid-dependent individuals (N = 1,897). Treatment costs included drug preparations and supervised consumption of doses. Retention in treatment was used as the primary measure of clinical effectiveness. **RESULTS:** Weighted mean treatment retention rates were 49% (2 to 7.9-mg/day), 53% (8 to 15.9-mg/day), 60% (16 to 23.9-mg/day) and 58% (24 to 32-mg/day). Controlling for differences in treatment duration, patients dosed with 16 to 23.9-mg/day, 24 to 32-mg/day, and 8 to 15.9-mg/day were 47% ($p = 0.001$), 37% ($p = 0.275$), and 8% ($p = 0.498$) more likely to stay in treatment for 12-26 weeks compared to patients dosed with 2 to 7.9-mg/day. Compared to 8 to 15.9-mg/day, a 16 to 23.9-mg/day dose was estimated to yield an additional 65 retentions per 1000 patients treated at an additional cost of £74,968 (incremental cost per retention = £1,158). **CONCLUSIONS:** If UK decision makers' willingness-to-pay to retain one patient in treatment for at least 12 weeks is greater than £1,158, then buprenorphine/buprenorphine-naloxone prescribed at a dose of 16 to 23.9-mg/day may cost-effectively increase the treatment retention rate.

**PMH49**

**INCENTIVE-BASED TREATMENTS TO PROMOTE SMOKING ABSTINENCE DURING PREGNANCY: FINDINGS FROM THE VERMONT CENTER ON BEHAVIOR AND HEALTH**

Jones C[1], Gaalema D[2], Shepard DS[3], Erten M[1], Stoeckel M[2], Day S[2], Higgins ST[2]

[1]*University of Vermont – College of Medicine, Burlington, VT, USA,* [2]*University of Vermont, Burlington, VT, USA,* [3]*Brandeis University, Waltham, MA, USA*

**OBJECTIVES:** The risks of smoking during pregnancy are numerous to both mother and fetus. While the negative effects of smoking during pregnancy can be long-term, medical costs that are most easily linked to smoking during pregnancy occur shortly following birth. For example, smoking during pregnancy often results in prolonged hospitalization and admission of the infant to a neonatal intensive care unit (NICU), at a cost of thousands of dollars daily. We set out to perform the first health economic analysis of incentive-based treatments in a smoking, pregnant population. **METHODS:** The design of the present study was based on analysis of recent prospective studies examining the use of contingency management (CM) for the treatment of smoking during pregnancy. The resultant pooled analysis totaled 166 women (82 contingent, 78 non-contingent) for whom clinical outcomes and direct hospital costs were reported. Pregnant women who reported smoking upon entering prenatal care were recruited from Fletcher Allen Health Care obstetric practices and Women, Infants, and Children (WIC) offices in and around Burlington, Vermont. Women were randomized between two conditions: contingent or noncontingent vouchers. Those in the contingent condition received vouchers exchangeable for retail goods contingent upon cotinine-negative urine analysis. Women in the non-contingent condition received vouchers independent of their smoking status. Vouchers were provided throughout pregnancy and for the first 3 months postpartum. **RESULTS:** As compared with non-contingent care, CM led to a nearly 3-fold reduction in admissions to the neonatal intensive care unit (NICU). Only 7.0% of CM women delivered infants admitted to the NICU (median charge = $9,210) versus 19.2% among non-contingent women (median charge = $11,363). The findings from this study suggest that these cash-like incentives targeting at-risk patients are not only cost-effective but also cost-saving in pregnant smokers. **CONCLUSIONS:** Incentive-based treatment towards smoking abstinence dominated usual care with both better outcomes and lower economic costs.

**PMH50**

**COST-EFFECTIVENESS OF PALIPERIDONE PALMITATE VERSUS OLANZAPINE, QUETIAPINE AND ZIPRAZIDONE FOR THE TREATMENT OF PATIENTS WITH SCHIZOPHRENIA UNDER THE BRAZILIAN PRIVATE HEALTH CARE SYSTEM PERSPECTIVE**

Nishikawa AM[1], Clark OAC[1], Pititto L[2]

[1]*Evidências, Campinas, Brazil,* [2]*Janssen Cilag, São Paulo, Brazil*

**OBJECTIVES:** Schizophrenia is a chronic disorder that requires long-term treatment with antipsychotic medication to minimize relapse and provide benefit to patients. Due to the long duration of treatment, adherence is an important factor in order to avoid relapses and re-hospitalization. Long-acting Injectable (LAI) formulations of atypical antipsychotics provide constant medication delivery and thus a potential improve in adherence. The aim of this analysis is to assess the cost-effectiveness of paliperidone palmitate (PP) relative to olanzapine (OP), quetiapine (QP) and ziprazidone (ZP) under the Brazilian Private Healthcare System perspective. **METHODS:** A decision-analytic Markov model was developed adopting a monthly cycle length. Patients entered the model according to three different adhesion states related to each treatment drug - fully compliant, partially compliant and non-compliant – and could subsequently transition between different health states during each monthly cycle. Probability of relapse, level of adherence, treatment discontinuation and adverse events associated with each intervention were sourced from literature and while resource use was obtained from specialist's opinion. Costs and outcomes were evaluated over a 5-year horizon, and discounted at 5.0%. Exchange rate (1 USD = 2.30 BRL) Results were presented as incremental costs/relapses avoided. Deterministic and probabilistic sensitivity analyses were performed **RESULTS:** Total costs (USD): PP (15,917), OP (13,670), QP (16,845) and ZP (13,273). Hospitalization relapses costs (USD): PP (3,114), OP (4,504), QP (6,305) and ZP (6,459). Relapses rate: PP (1.15), OP (1.67), QP (2.37) and ZP (2.41). Incremental cost per relapses avoided (USD/relapses avoided): PP vs. OP (2,247), PP vs. QP (-927), PP vs. ZP (2,644). **CONCLUSIONS:** Compared with the drugs under analysis, PP demonstrates savings in terms of hospitalization costs. Additionally, PP is a cost-saving strategy compared to QP and when compared to OP and ZP, is a cost-effective therapy for the treatment of schizophrenia in adults patients in Brazil.

**PMH51**

**COST-EFFECTIVENESS OF PHARMACOTHERAPY FOR CHILDREN AND ADOLESCENTS WITH ATTENTION DIFICIT HYPERACTIVITY DISORDER**

Chou YT[1], Biddle AK[2]

[1]*University of North Carolina at Chapel Hill, Eshelman School of Pharmacy, Chapel Hill, NC, USA,* [2]*University of North Carolina at Chapel Hill, Gillings School of Global Public Health, Chapel Hill, NC, USA*

**OBJECTIVES:** Effective therapy with different drug formulations exists for Attention Deficit Hyperactivity Disorder (ADHD), yet poor adherence leads to suboptimal long-term effects for children and adolescents with ADHD. This study analyzes the cost-effectiveness of medication formulation (long-acting [LA] versus short-acting [SA]) for ADHD treatments in children and adolescents taking into account medication adherence. **METHODS:** We constructed a hybrid decision tree-Markov model employing a third-party payer's perspective. Evaluation included methylphenidate (MPH) and atomoxetine (ATX) with long- and short-acting formulations, which resulted in three medication groups for comparison: LA-ATX, LA-MPH, and SA-MPH. Only medication costs for ADHD treatments are considered, which were retrieved from *Consumer Reports Best Buy Drugs*$^{TM}$ report. Quality-adjusted life expectancy (QALE) was measured in quality-adjusted life-years (QALYs) considering side effects among medication groups. The 5-year discounted incremental costs (in 2013 US dollars) per QALY (ICER) were reported comparing the three medication groups. Sensitivity analyses were performed to test the impact of uncertain model parameters on results. **RESULTS:** Considering medication adherence, the ICERs are $18,926/QALY for LA-ATX ($3,417, 4.33 QALYs), $11,335/QALY for LA-MPH ($1,288, 4.26 QALYs), and $7,816/QALY for SA-MPH ($591, 4.23 QALYs), respectively, compared to no treatment. LA medications are consistently cost-effectiveness compared to SA medications. In general, the ICERs were insensitive to variation in key parameters. **CONCLUSIONS:** LA-ATX, LA-MPH, and SA-MPH are cost-effective alternatives for children and adolescents with ADHD when considering medication adherence. Treatment with long-acting medications, especially ATX, is associated with better health outcomes and higher medication adherence. Given there is little difference in health outcomes among the therapies; however, additional research on optimal ADHD treatments (pharmacological, behavioral, or combined therapies) is needed.

**PMH52**

**A COST UTILITY ANALYSIS OF CYP2D6 PHARMACOGENETIC GUIDED DOSING VERSUS STANDARD DOSING OF RISPERIDONE FOR TREATMENT OF SCHIZOPHRENIA**

Yep T, Devine B

*University of Washington, Seattle, WA, USA*

**BACKGROUND/OBJECTIVES:** Risperidone is a commonly used antipsychotic for the treatment of schizophrenia. Its major metabolic pathway is through the liver enzyme CYP2D6. Variants of CYP2D6 confer differing activity levels. Poor metabolizer phenotype is suspected to increase the risk of adverse drug reactions that could lead to risperidone discontinuation and poor patient outcomes. The objective of this study was to assess the potential costs and outcomes of a pharmacogenetic-guided risperidone treatment strategy for use in schizophrenics. **METHODS:** A decision analytic model was developed to estimate the incremental cost per QALY gained (ICER) and cost per relapse and hospitalization avoided, associated with a pharmacogenetic-guided strategy compared to a standard treatment approach for a hypothetical schizophrenic patient initiated on risperidone. We used a one-year time horizon and a payer perspective. Model probabilities, costs, and utilities were obtained from the literature. One-way sensitivity analyses were performed to explore the possible range of results. **RESULTS:** For one patient entering the model, pharmacogenetic-guided treatment increased QALYs (0.00047), and prevented relapses (0.00782) as well as relapse-associated hospitalizations (0.00235) at an increased total cost ($167). This resulted in an ICER of $356,356, and costs of $21,468 per relapse avoided and $71,561 per hospitalization avoided relative to standard treatment. Findings were robust to one-way sensitivity analyses and did not change the base case Conclusions. **CONCLUSIONS:** Our results suggest a pharmacogenetic-guided treatment approach for risperidone may confer a small reduction in relapses and consequent hospitalizations, and a very minimal increase in QALYs for relatively low additional cost compared to standard treatment. However, the large ICER suggests this approach is not cost effective.

**PMH53**

**EVALUATION OF THE BURDEN OF DEPRESSION AMONG UNITED STATES VETERAN PATIENTS**

Baser O[1], Xie L[2], Huang A[3], Du J[2], Wang Y[2], Wang L[3]

[1]*STATinMED Research and The University of Michigan, Ann Arbor, MI, USA,* [2]*STATinMED Research, Ann Arbor, MI, USA,* [3]*STATinMED Research, Dallas, TX, USA*